

# Hit List

[First Hit](#) [Clear](#) [Generate Collection](#) [Print](#) [Fwd Refs](#) [Bkwd Refs](#) [Generate OACS](#)

## Search Results - Record(s) 1 through 10 of 21 returned.

☐ 1. Document ID: US 6982710 B2

L21: Entry 1 of 21

File: USPT

Jan 3, 2006

US-PAT-NO: 6982710

DOCUMENT-IDENTIFIER: US 6982710 B2

TITLE: System and method to obtain surface structures of multi-dimensional objects, and to represent those surface structures for animation, transmission and display

PRIOR-PUBLICATION:

DOC-ID

DATE

US 20030052875 A1

March 20, 2003

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 2. Document ID: US 6975894 B2

L21: Entry 2 of 21

File: USPT

Dec 13, 2005

US-PAT-NO: 6975894

DOCUMENT-IDENTIFIER: US 6975894 B2

TITLE: Digital topological analysis of trabecular bone MR images and prediction of osteoporosis fractures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 3. Document ID: US 6973158 B2

L21: Entry 3 of 21

File: USPT

Dec 6, 2005

US-PAT-NO: 6973158

DOCUMENT-IDENTIFIER: US 6973158 B2

TITLE: Multi-target X-ray tube for dynamic multi-spectral limited-angle CT imaging

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 4. Document ID: US 6950493 B2

L21: Entry 4 of 21

File: USPT

Sep 27, 2005

## Record List Display

Page 2 of 3

US-PAT-NO: 6950493

DOCUMENT-IDENTIFIER: US 6950493 B2

TITLE: Dynamic multi-spectral CT imaging

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 5. Document ID: US 6950492 B2

L21: Entry 5 of 21

File: USPT

Sep 27, 2005

US-PAT-NO: 6950492

DOCUMENT-IDENTIFIER: US 6950492 B2

TITLE: Dynamic multi-spectral X-ray projection imaging

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 6. Document ID: US 6937884 B1

L21: Entry 6 of 21

File: USPT

Aug 30, 2005

US-PAT-NO: 6937884

DOCUMENT-IDENTIFIER: US 6937884 B1

TITLE: Method and system for imaging the dynamics of scattering medium

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 7. Document ID: US 6845260 B2

L21: Entry 7 of 21

File: USPT

Jan 18, 2005

US-PAT-NO: 6845260

DOCUMENT-IDENTIFIER: US 6845260 B2

TITLE: Automatic vessel indentification for angiographic screening

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 8. Document ID: US 6816743 B2

L21: Entry 8 of 21

File: USPT

Nov 9, 2004

US-PAT-NO: 6816743

DOCUMENT-IDENTIFIER: US 6816743 B2

**\*\* See image for Certificate of Correction \*\***

TITLE: Methods and apparatus for in vivo identification and characterization of vulnerable atherosclerotic plaques

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 9. Document ID: US 6721773 B2

L21: Entry 9 of 21

File: USPT

Apr 13, 2004

US-PAT-NO: 6721773

DOCUMENT-IDENTIFIER: US 6721773 B2

TITLE: Single precision array processor

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	IMC	Draw Desc	Image
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☐ 10. Document ID: US 6704694 B1

L21: Entry 10 of 21

File: USPT

Mar 9, 2004

US-PAT-NO: 6704694

DOCUMENT-IDENTIFIER: US 6704694 B1

TITLE: Ray based interaction system

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	IMC	Draw Desc	Image
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[Clear](#)[Generate Collection](#)[Print](#)[Fwd Refs](#)[Bkwd Refs](#)[Generate OACS](#)

Terms	Documents
voxel and ray and sign and value and magnitude and distance and consecutive	21

Display Format: [Change Format](#)[Previous Page](#)[Next Page](#)[Go to Doc#](#)

# Hit List

[First Hit](#)[Clear](#)[Generate Collection](#)[Print](#)[Fwd Refs](#)[Bkwd Refs](#)[Generate OACS](#)

## Search Results - Record(s) 11 through 20 of 21 returned.

☐ 11. Document ID: US 6597761 B1

L21: Entry 11 of 21

File: USPT

Jul 22, 2003

US-PAT-NO: 6597761

DOCUMENT-IDENTIFIER: US 6597761 B1

TITLE: Log evaluation using cylindrical projections

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 12. Document ID: US 6532017 B1

L21: Entry 12 of 21

File: USPT

Mar 11, 2003

US-PAT-NO: 6532017

DOCUMENT-IDENTIFIER: US 6532017 B1

TITLE: Volume rendering pipeline

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 13. Document ID: US 6512517 B1

L21: Entry 13 of 21

File: USPT

Jan 28, 2003

US-PAT-NO: 6512517

DOCUMENT-IDENTIFIER: US 6512517 B1

TITLE: Volume rendering integrated circuit

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 14. Document ID: US 6480285 B1

L21: Entry 14 of 21

File: USPT

Nov 12, 2002

US-PAT-NO: 6480285

DOCUMENT-IDENTIFIER: US 6480285 B1

TITLE: Multiple layer confocal interference microscopy using wavenumber domain reflectometry and background amplitude reduction and compensation

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 15. Document ID: US 6466185 B2

L21: Entry 15 of 21

File: USPT

Oct 15, 2002

US-PAT-NO: 6466185

DOCUMENT-IDENTIFIER: US 6466185 B2

TITLE: Multi-planar volumetric display system and method of operation using psychological vision cues

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Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 16. Document ID: US 6430589 B1

L21: Entry 16 of 21

File: USPT

Aug 6, 2002

US-PAT-NO: 6430589

DOCUMENT-IDENTIFIER: US 6430589 B1

TITLE: Single precision array processor

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Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 17. Document ID: US 5847711 A

L21: Entry 17 of 21

File: USPT

Dec 8, 1998

US-PAT-NO: 5847711

DOCUMENT-IDENTIFIER: US 5847711 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Apparatus and method for parallel and perspective real-time volume visualization

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Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 18. Document ID: US 5788713 A

L21: Entry 18 of 21

File: USPT

Aug 4, 1998

US-PAT-NO: 5788713

DOCUMENT-IDENTIFIER: US 5788713 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Method and apparatus for stereotactic implantation

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Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 19. Document ID: US 5601083 A

L21: Entry 19 of 21

File: USPT

Feb 11, 1997

## Record List Display

Page 3 of 3

US-PAT-NO: 5601083

DOCUMENT-IDENTIFIER: US 5601083 A

TITLE: Real time 3D imaging device using filtered ellipsoidal backprojection

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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☐ 20. Document ID: US 5235857 A

L21: Entry 20 of 21

File: USPT

Aug 17, 1993

US-PAT-NO: 5235857

DOCUMENT-IDENTIFIER: US 5235857 A

TITLE: Real time 3D imaging device using filtered ellipsoidal backprojection with extended transmitters

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc	Image
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Clear

Generate Collection

Print

Fwd Refs

Bkwd Refs

Generate OACS

Terms	Documents
voxel and ray and sign and value and magnitude and distance and consecutive	21

Display Format: TI

Change Format

[Previous Page](#)[Next Page](#)[Go to Doc#](#)

# Hit List

[First Hit](#) [Clear](#) [Generate Collection](#) [Print](#) [Fwd Refs](#) [Bkwd Refs](#) [Generate OACS](#)

**Search Results** - Record(s) 21 through 21 of 21 returned.

☐ 21. Document ID: US 5090245 A

L21: Entry 21 of 21

File: USPT

Feb 25, 1992

US-PAT-NO: 5090245

DOCUMENT-IDENTIFIER: US 5090245 A

TITLE: Three dimensional imaging device using filtered ellipsoidal backprojection

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Data	Image
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[Clear](#) [Generate Collection](#) [Print](#) [Fwd Refs](#) [Bkwd Refs](#) [Generate OACS](#)

Terms	Documents
voxel and ray and sign and value and magnitude and distance and consecutive	21

Display Format:  [Change Format](#)

[Previous Page](#)

[Next Page](#)

[Go to Doc#](#)

# Hit List

[First Hit](#)
[Generate Collection](#)
[Print](#)
[Fwd Refs](#)
[Bkwd Refs](#)
[Generate OACS](#)

## Search Results - Record(s) 1 through 10 of 16 returned.

### ☐ 1. Document ID: US 20060018548 A1

L20: Entry 1 of 16

File: PGPB

Jan 26, 2006

PGPUB-DOCUMENT-NUMBER: 20060018548

PGPUB-FILING-TYPE:

DOCUMENT-IDENTIFIER: US 20060018548 A1

TITLE: Method, system, and computer software product for automated identification of temporal patterns with high initial enhancement in dynamic magnetic resonance breast imaging

PUBLICATION-DATE: January 26, 2006

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Chen; Weijie	Chicago	IL	US
Giger; Maryellen L.	Elmhurst	IL	US
Newstead; Gillian	Chicago	IL	US

US-CL-CURRENT: [382/190](#)

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">Claims</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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### ☐ 2. Document ID: US 20050220265 A1

L20: Entry 2 of 16

File: PGPB

Oct 6, 2005

PGPUB-DOCUMENT-NUMBER: 20050220265

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050220265 A1

TITLE: Methods for acquiring multi spectral data of an object

PUBLICATION-DATE: October 6, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Besson, Guy M.	Broomfield	CO	US

US-CL-CURRENT: [378/16](#)

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">Claims</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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### ☐ 3. Document ID: US 20050128195 A1



L20: Entry 3 of 16

File: PGPB

Jun 16, 2005

PGPUB-DOCUMENT-NUMBER: 20050128195

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050128195 A1

TITLE: Method for converting explicitly represented geometric surfaces into accurate level sets

PUBLICATION-DATE: June 16, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Houston, Benjamin B.	Winnipeg		CA
Wiebe, Mark	Winnipeg		CA

US-CL-CURRENT: 345/419

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc	Image
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☐ 4. Document ID: US 20050070699 A1

L20: Entry 4 of 16

File: PGPB

Mar 31, 2005

PGPUB-DOCUMENT-NUMBER: 20050070699

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050070699 A1

TITLE: Hbm variants that modulate bone mass and lipid levels

PUBLICATION-DATE: March 31, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Allen, Kristina	Hopkinton	MA	US
Anisowicz, Anthony	West Newton	MA	US
Graham, James R.	Arlington	MA	US
Morales, Arturo	Arlington	MA	US
Yaworsky, Paul J.	Rockland	MA	US
Liu, Wei	Sudbury	MA	US

US-CL-CURRENT: 536/23.2; 435/226, 435/320.1, 435/325, 435/6, 435/69.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc	Image
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☐ 5. Document ID: US 20040264628 A1

L20: Entry 5 of 16

File: PGPB

Dec 30, 2004

PGPUB-DOCUMENT-NUMBER: 20040264628

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040264628 A1

TITLE: DYNAMIC MULTI-SPECTRAL IMAGING WITH WIDEBAND SELETABLE SOURCE

PUBLICATION-DATE: December 30, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Besson, Guy M.	Broomfield	CO	US

US-CL-CURRENT: 378/5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw Desc	Image
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☐ 6. Document ID: US 20040264627 A1

L20: Entry 6 of 16

File: PGPB

Dec 30, 2004

PGPUB-DOCUMENT-NUMBER: 20040264627

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040264627 A1

TITLE: Dynamic multi-spectral X-ray projection imaging

PUBLICATION-DATE: December 30, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Besson, Guy M.	Broomfield	CO	US

US-CL-CURRENT: 378/5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw Desc	Image
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☐ 7. Document ID: US 20040264626 A1

L20: Entry 7 of 16

File: PGPB

Dec 30, 2004

PGPUB-DOCUMENT-NUMBER: 20040264626

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040264626 A1

TITLE: Dynamic multi-spectral imaging with wideband selecteable source

PUBLICATION-DATE: December 30, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Besson, Guy M.	Broomfield	CO	US

US-CL-CURRENT: 378/4

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw Desc	Image
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☐ 8. Document ID: US 20040244069 A1

L20: Entry 8 of 16

File: PGPB

Dec 2, 2004

PGPUB-DOCUMENT-NUMBER: 20040244069  
 PGPUB-FILING-TYPE: new  
 DOCUMENT-IDENTIFIER: US 20040244069 A1

TITLE: Transgenic animal model of bone mass modulation

PUBLICATION-DATE: December 2, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Askew, G. Roger	Boxford	MA	US
Babij, Philip	Dunstable	MA	US
Bex, Frederick James III	Newtown Square	PA	US
Nest Bodine, Peter Van	Havertown	PA	US

US-CL-CURRENT: 800/14

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	IMC	Draw Desc	Image
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☐ 9. Document ID: US 20040221326 A1

L20: Entry 9 of 16

File: PGPB

Nov 4, 2004

PGPUB-DOCUMENT-NUMBER: 20040221326  
 PGPUB-FILING-TYPE: new  
 DOCUMENT-IDENTIFIER: US 20040221326 A1

TITLE: Transgenic animal model of bone mass modulation

PUBLICATION-DATE: November 4, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Babij, Philip	Newbury Park	CA	US
Bex, Frederick James	Newton Square	PA	US
Bodine, Peter Van Nest	Havertown	PA	US
Askew, G. Roger	Boxford	MA	US

US-CL-CURRENT: 800/3; 800/8

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	IMC	Draw Desc	Image
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☐ 10. Document ID: US 20030166999 A1

L20: Entry 10 of 16

File: PGPB

Sep 4, 2003

PGPUB-DOCUMENT-NUMBER: 20030166999  
 PGPUB-FILING-TYPE: new  
 DOCUMENT-IDENTIFIER: US 20030166999 A1

TITLE: Automatic vessel identification for angiographic screening

file://C:\DOCUME~1\PNguyen\LOCALS~1\Temp\J1LC2TBB.htm

2/21/06

PUBLICATION-DATE: September 4, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Liu, Kecheng	Solon	OH	US
Suri, Jasjit S.	Mayfield Heights	OH	US

US-CL-CURRENT: 600/410

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	IMC	Draw Desc	Image
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Clear

Generate Collection

Print

Fwd Refs

Bkwd Refs

Generate OACS

Terms

Documents

L19 and consecutive

16

Display Format: CIT

Change Format

[Previous Page](#)[Next Page](#)[Go to Doc#](#)

# Hit List

[First Hit](#)[Generate Collection](#)[Print](#)[Fwd Refs](#)[Bkwd Refs](#)[Generate OACS](#)

## Search Results - Record(s) 11 through 16 of 16 returned.

☐ 11. Document ID: US 20030052875 A1

L20: Entry 11 of 16

File: PGPB

Mar 20, 2003

PGPUB-DOCUMENT-NUMBER: 20030052875

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030052875 A1

TITLE: System and method to obtain surface structures of multi-dimensional objects, and to represent those surface structures for animation, transmission and display

PUBLICATION-DATE: March 20, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Salomie, Ioan Alexandru	Brussels		BE

US-CL-CURRENT: [345/419](#)

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">Claims</a>	<a href="#">KWIC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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☐ 12. Document ID: US 20020191823 A1

L20: Entry 12 of 16

File: PGPB

Dec 19, 2002

PGPUB-DOCUMENT-NUMBER: 20020191823

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020191823 A1

TITLE: Digital topological analysis of trabecular bone MR images and prediction of osteoporosis fractures

PUBLICATION-DATE: December 19, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Wehrli, Felix W.	Bala Cynwyd	PA	US
Saha, Punam K.	Philadelphia	PA	US
Gomberg, Bryon Roos	Philadelphia	PA	US

US-CL-CURRENT: [382/128](#); [128/920](#), [600/407](#)

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">Claims</a>	<a href="#">KWIC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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☐ 13. Document ID: US 20020184284 A1

L20: Entry 13 of 16

File: PGPB

Dec 5, 2002

PGPUB-DOCUMENT-NUMBER: 20020184284

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020184284 A1

TITLE: Single precision array processor

PUBLICATION-DATE: December 5, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Jennings, Earle W. III	San Jose	CA	US

US-CL-CURRENT: 708/501

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 14. Document ID: US 20020163482 A1

L20: Entry 14 of 16

File: PGPB

Nov 7, 2002

PGPUB-DOCUMENT-NUMBER: 20020163482

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020163482 A1

TITLE: Multi-planar volumetric display system including optical elements made from liquid crystal having polymer stabilized cholesteric textures

PUBLICATION-DATE: November 7, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Sullivan, Alan	White Plains	NY	US

US-CL-CURRENT: 345/6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 15. Document ID: US 20020113752 A1

L20: Entry 15 of 16

File: PGPB

Aug 22, 2002

PGPUB-DOCUMENT-NUMBER: 20020113752

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020113752 A1

TITLE: MULTI-PLANAR VOLUMETRIC DISPLAY SYSTEM AND METHOD OF OPERATION USING PSYCHOLOGICAL VISION CUES

PUBLICATION-DATE: August 22, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Sullivan, Alan	White Plains	NY	US
Snuffer, John	New York	NY	US

US-CL-CURRENT: 345/6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw Desc	Image
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☐ 16. Document ID: US 20010047137 A1

L20: Entry 16 of 16

File: PGPB

Nov 29, 2001

PGPUB-DOCUMENT-NUMBER: 20010047137

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010047137 A1

TITLE: Methods and apparatus for in vivo identification and characterization of vulnerable atherosclerotic plaques

PUBLICATION-DATE: November 29, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Moreno, Pedro	Lexington	KY	US
Lodder, Robert A.	Nicholasville	KY	US
O'Connor, William	Lexington	KY	US
Muller, James E.	Lexington	KY	US

US-CL-CURRENT: 600/475; 250/338.1, 250/339.01, 250/339.06, 250/339.11, 600/476, 600/477

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	-----	-----------	-------

Clear

Generate Collection

Print

Fwd Refs

Bkwd Refs

Generate OACS

Terms

Documents

L19 and consecutive

16

Display Format: CIT

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[Previous Page](#)[Next Page](#)[Go to Doc#](#)

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### ☐ 1. Document ID: US 6982710 B2

L21: Entry 1 of 21

File: USPT

Jan 3, 2006

US-PAT-NO: 6982710

DOCUMENT-IDENTIFIER: US 6982710 B2

TITLE: System and method to obtain surface structures of multi-dimensional objects, and to represent those surface structures for animation, transmission and display

DATE-ISSUED: January 3, 2006

## PRIOR-PUBLICATION:

DOC-ID	DATE
US 20030052875 A1	March 20, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Salomie; Ioan Alexandru	Brussels			BE

US-CL-CURRENT: [345/420](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMC	Draw Desc	Image
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### ☐ 2. Document ID: US 6975894 B2

L21: Entry 2 of 21

File: USPT

Dec 13, 2005

US-PAT-NO: 6975894

DOCUMENT-IDENTIFIER: US 6975894 B2

TITLE: Digital topological analysis of trabecular bone MR images and prediction of osteoporosis fractures

DATE-ISSUED: December 13, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wehrli; Felix W.	Bala Cynwyd	PA		
Saha; Punam K.	Philadelphia	PA		
Gomberg; Bryon Roos	Philadelphia	PA		

US-CL-CURRENT: [600/407](#); [378/21](#), [378/23](#), [378/27](#), [378/4](#), [378/46](#), [378/47](#), [378/62](#), [382/128](#), [382/131](#), [382/132](#), [600/410](#), [600/411](#), [600/416](#), [600/425](#)



Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWC	Draw Desc	Image
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☐ 3. Document ID: US 6973158 B2

L21: Entry 3 of 21

File: USPT

Dec 6, 2005

US-PAT-NO: 6973158

DOCUMENT-IDENTIFIER: US 6973158 B2

TITLE: Multi-target X-ray tube for dynamic multi-spectral limited-angle CT imaging

DATE-ISSUED: December 6, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Besson; Guy M.	Broomfield	CO	80020	

US-CL-CURRENT: 378/16; 378/22, 378/5, 378/901

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWC	Draw Desc	Image
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☐ 4. Document ID: US 6950493 B2

L21: Entry 4 of 21

File: USPT

Sep 27, 2005

US-PAT-NO: 6950493

DOCUMENT-IDENTIFIER: US 6950493 B2

TITLE: Dynamic multi-spectral CT imaging

DATE-ISSUED: September 27, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Besson; Guy M.	Broomfield	CO	80020	

US-CL-CURRENT: 378/16

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWC	Draw Desc	Image
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☐ 5. Document ID: US 6950492 B2

L21: Entry 5 of 21

File: USPT

Sep 27, 2005

US-PAT-NO: 6950492

DOCUMENT-IDENTIFIER: US 6950492 B2

TITLE: Dynamic multi-spectral X-ray projection imaging

DATE-ISSUED: September 27, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Besson; Guy M.	Broomfield	CO	80020	

US-CL-CURRENT: 378/5; 378/16, 378/901

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMC	Draw Desc	Image
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☐ 6. Document ID: US 6937884 B1

L21: Entry 6 of 21

File: USPT

Aug 30, 2005

US-PAT-NO: 6937884

DOCUMENT-IDENTIFIER: US 6937884 B1

TITLE: Method and system for imaging the dynamics of scattering medium

DATE-ISSUED: August 30, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Barbour; Randall L.	Glen Head	NY		

US-CL-CURRENT: 600/473; 356/39, 356/40, 356/41, 382/128, 382/130, 600/310, 600/323, 600/407, 600/476

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMC	Draw Desc	Image
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☐ 7. Document ID: US 6845260 B2

L21: Entry 7 of 21

File: USPT

Jan 18, 2005

US-PAT-NO: 6845260

DOCUMENT-IDENTIFIER: US 6845260 B2

TITLE: Automatic vessel indentification for angiographic screening

DATE-ISSUED: January 18, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Liu; Kecheng	Solon	OH		
Suri; Jasjit S.	Mayfield Heights	OH		

US-CL-CURRENT: 600/410; 600/407

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMC	Draw Desc	Image
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☐ 8. Document ID: US 6816743 B2

L21: Entry 8 of 21

File: USPT

Nov 9, 2004

US-PAT-NO: 6816743

DOCUMENT-IDENTIFIER: US 6816743 B2

\*\* See image for Certificate of Correction \*\*

TITLE: Methods and apparatus for in vivo identification and characterization of vulnerable atherosclerotic plaques

DATE-ISSUED: November 9, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Moreno; Pedro	Lexington	KY		
Lodder; Robert A.	Nicholasville	KY		
O'Connor; William	Lexington	KY		
Muller; James E.	Lexington	KY		

US-CL-CURRENT: 600/473; 382/128, 382/130, 600/476, 600/478, 600/479CIPG20060101AA61BA61B5

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMOC	Draw Desc	Image
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☐ 9. Document ID: US 6721773 B2

L21: Entry 9 of 21

File: USPT

Apr 13, 2004

US-PAT-NO: 6721773

DOCUMENT-IDENTIFIER: US 6721773 B2

TITLE: Single precision array processor

DATE-ISSUED: April 13, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Jennings, III; Earle W.	San Jose	CA		

US-CL-CURRENT: 708/505

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMOC	Draw Desc	Image
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☐ 10. Document ID: US 6704694 B1

L21: Entry 10 of 21

File: USPT

Mar 9, 2004

US-PAT-NO: 6704694

DOCUMENT-IDENTIFIER: US 6704694 B1

TITLE: Ray based interaction system

DATE-ISSUED: March 9, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Basdogan; Cagatay	Pasadena	CA		
Ho; Chih-Hao	Cambridge	MA		

Srinivasan; Mandayam A.

West Newton

MA

US-CL-CURRENT: 703/4; 345/184, 703/6

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMC	Draw Desc	Image
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 Terms used **voxel ray magnitude sign**

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# 1 [Visualization of Noisy and Biased Volume Data Using First and Second Order Derivative Techniques](#)

M. P. Persoon, I. W. O. Serlie, F. H. Post, R. Truyen, F. M. Vos

 October 2003 **Proceedings of the 14th IEEE Visualization 2003 (VIS'03) VIS '03**

Publisher: IEEE Computer Society

 Full text available: [pdf \(1.39 MB\)](#)

 Additional Information: [full citation](#), [abstract](#)

The quality of volume visualization depends strongly on the quality of the underlying data. In virtual colonoscopy, CT data should be acquired at a low radiation dose that results in a low signal-to-noise ratio. Alternatively, MRI data is acquired without ionizing radiation, but suffers from noise and bias (global signal fluctuations). Current volume visualization techniques often do not produce good results with noisy or biased data. This paper describes methods for volume visualization that de ...

**Keywords:** virtual colonoscopy, bias field, medical imaging, surface extraction, direct volume rendering

# 2 [Level set and PDE methods for computer graphics](#)

David Breen, Ron Fedkiw, Ken Museth, Stanley Osher, Guillermo Sapiro, Ross Whitaker

 August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

 Full text available: [pdf \(17.07 MB\)](#)

 Additional Information: [full citation](#), [abstract](#)

Level set methods, an important class of partial differential equation (PDE) methods, define dynamic surfaces implicitly as the level set (iso-surface) of a sampled, evolving nD function. The course begins with preparatory material that introduces the concept of using partial differential equations to solve problems in computer graphics, geometric modeling and computer vision. This will include the structure and behavior of several different types of differential equations, e.g. the level set eq ...

# 3 [Real-time volume graphics](#)

Klaus Engel, Markus Hadwiger, Joe M. Kniss, Aaron E. Lefohn, Christof Rezk Salama, Daniel Weiskopf

 August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

 Full text available: [pdf \(7.63 MB\)](#)


 Additional Information: [full citation](#), [abstract](#)

The tremendous evolution of programmable graphics hardware has made high-quality real-time volume graphics a reality. In addition to the traditional application of rendering

volume data in scientific visualization, the interest in applying these techniques for real-time rendering of atmospheric phenomena and participating media such as fire, smoke, and clouds is growing rapidly. This course covers both applications in scientific visualization, e.g., medical volume data, and real-time rendering, ...

#### 4 The elements of nature: interactive and realistic techniques



 Oliver Deussen, David S. Ebert, Ron Fedkiw, F. Kenton Musgrave, Przemyslaw Prusinkiewicz, Doug Roble, Jos Stam, Jerry Tessendorf  
August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

**Publisher:** ACM Press

Full text available:  [pdf\(17.65 MB\)](#) Additional Information: [full citation](#), [abstract](#)

This updated course on simulating natural phenomena will cover the latest research and production techniques for simulating most of the elements of nature. The presenters will provide movie production, interactive simulation, and research perspectives on the difficult task of photorealistic modeling, rendering, and animation of natural phenomena. The course offers a nice balance of the latest interactive graphics hardware-based simulation techniques and the latest physics-based simulation techni ...

#### 5 Adaptive Design of a Global Opacity Transfer Function for Direct Volume Rendering of Ultrasound Data



Dieter Honigmann, Johannes Ruisz, Christoph Haider

October 2003 **Proceedings of the 14th IEEE Visualization 2003 (VIS'03) VIS '03**

**Publisher:** IEEE Computer Society

Full text available:  [pdf\(1.24 MB\)](#) Additional Information: [full citation](#), [abstract](#)

While there are a couple of transfer function design approaches for CT and MRI data, direct volume rendering of ultrasound data still relies on manual adjustment of an inflexible piecewise linear opacity transfer function (OTF) on a trial-and-error basis. The main challenge of automatically designing an OTF for visualization of sonographic data is the low signal-to-noise ratio in combination with real time data acquisition at frame rates up to 25 volumes per second. In this paper, we present an ...

**Keywords:** 3D ultrasound, direct volume rendering, transfer function

#### 6 Frequency domain volume rendering



 Takashi Totsuka, Marc Levoy  
September 1993 **Proceedings of the 20th annual conference on Computer graphics and interactive techniques**

**Publisher:** ACM Press

Full text available:  [pdf\(258.84 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** Fourier transform, digital signal processing, medical imaging, scientific visualization, shading models, volume rendering

#### 7 The VolumePro real-time ray-casting system




 Hanspeter Pfister, Jan Hardenbergh, Jim Knittel, Hugh Lauer, Larry Seiler  
July 1999 **Proceedings of the 26th annual conference on Computer graphics and interactive techniques**

**Publisher:** ACM Press/Addison-Wesley Publishing Co.

Full text available:  [pdf\(2.11 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** graphics hardware, hardware systems, rendering hardware, rendering systems, volume rendering

8 GPGPU: general purpose computation on graphics hardware

 David Luebke, Mark Harris, Jens Krüger, Tim Purcell, Naga Govindaraju, Ian Buck, Cliff Woolley, Aaron Lefohn


August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

**Publisher:** ACM Press

Full text available:  [pdf\(63.03 MB\)](#) Additional Information: [full citation](#), [abstract](#)

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous memory bandwidth and computational horsepower, with fully programmable vertex and pixel processing units that support vector operations up to full IEEE floating point precision. High level languages have emerged for graphics hardware, making this computational power accessible. Architecturally, GPUs are highly parallel s ...

9 A scalable parallel cell-projection volume rendering algorithm for three-dimensional unstructured data

 Kwan-Liu Ma, Thomas W. Crockett

October 1997 **Proceedings of the IEEE symposium on Parallel rendering**

**Publisher:** ACM Press

Full text available:  [pdf\(1.67 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** asynchronous communication, distributed memory, hierarchical data structures, load balancing, message passing, parallel algorithms, scientific visualization, unstructured grids, volume rendering

10 A ray-slice-sweep volume rendering engine

 Ingmar Bitter, Arie Kaufman


August 1997 **Proceedings of the ACM SIGGRAPH/EUROGRAPHICS workshop on Graphics hardware**

**Publisher:** ACM Press

Full text available:  [pdf\(1.09 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)


**Keywords:** compositing, gradient estimation, hardware design, perspective projection, volume rendering architecture, volume visualization

11 High dynamic range imaging

 Paul Debevec, Erik Reinhard, Greg Ward, Sumanta Pattanaik

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

**Publisher:** ACM Press

Full text available:  [pdf\(20.22 MB\)](#) Additional Information: [full citation](#), [abstract](#)

Current display devices can display only a limited range of contrast and colors, which is one of the main reasons that most image acquisition, processing, and display techniques use no more than eight bits per color channel. This course outlines recent advances in high-dynamic-range imaging, from capture to display, that remove this restriction, thereby enabling images to represent the color gamut and dynamic range of the original scene rather than the limited subspace imposed by current monitor ...

12 Collision detection and proximity queries

Sunil Hadap, Dave Eberle, Pascal Volino, Ming C. Lin, Stephane Redon, Christer Ericson

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

**Publisher:** ACM Press

Full text available:  [pdf\(11.22 MB\)](#) Additional Information: [full citation](#), [abstract](#)

This course will primarily cover widely accepted and proved methodologies in collision detection. In addition more advanced or recent topics such as continuous collision detection, ADFs, and using graphics hardware will be introduced. When appropriate the methods discussed will be tied to familiar applications such as rigid body and cloth simulation, and will be compared. The course is a good overview for those developing applications in physically based modeling, VR, haptics, and robotics.

### 13 Ray tracing: Multi-level ray tracing algorithm

Alexander Reshetov, Alexei Soupikov, Jim Hurley

July 2005 **ACM Transactions on Graphics (TOG)**, Volume 24 Issue 3

**Publisher:** ACM Press

Full text available:  [pdf\(662.90 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We propose new approaches to ray tracing that greatly reduce the required number of operations while strictly preserving the geometrical correctness of the solution. A hierarchical "beam" structure serves as a proxy for a collection of rays. It is tested against a kd-tree representing the overall scene in order to discard from consideration the sub-set of the kd-tree (and hence the scene) that is guaranteed not to intersect with any possible ray inside the beam. This allows for all the rays inside ...

**Keywords:** anti-aliasing, frustum occlusion culling, ray-tracing


### 14 Volume rendering: VIZARD II: a reconfigurable interactive volume rendering system

M. Meißner, U. Kanus, G. Wetekam, J. Hirche, A. Ehler, W. Straßer, M. Doggett, P.

Forthmann, R. Proksa

September 2002 **Proceedings of the ACM SIGGRAPH/EUROGRAPHICS conference on Graphics hardware**

**Publisher:** Eurographics Association

Full text available:  [pdf\(767.44 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper presents a reconfigurable, hardware accelerated, volume rendering system for high quality perspective ray casting. The volume rendering accelerator performs ray casting by calculating the path of the ray through the volume using a programmable Xilinx Virtex FPGA which provides fast design changes and low cost development. Volume datasets are stored on the card in low profile DIMMs with standard connectors allowing both, large datasets up to 1 GByte with 32 bit per voxel, and easy upgr ...

### 15 Volume rendering

Robert A. Drebin, Loren Carpenter, Pat Hanrahan

June 1988 **ACM SIGGRAPH Computer Graphics , Proceedings of the 15th annual conference on Computer graphics and interactive techniques SIGGRAPH '88**, Volume 22 Issue 4

**Publisher:** ACM Press

Full text available:  [pdf\(4.94 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A technique for rendering images of volumes containing mixtures of materials is presented. The shading model allows both the interior of a material and the boundary between materials to be colored. Image projection is performed by simulating the absorption of light along the ray path to the eye. The algorithms used are designed to avoid artifacts caused by aliasing and quantization and can be efficiently implemented on an image computer. Images from a variety of applications are shown.

**Keywords:** computer tomography, image processing, magnetic resonance imaging (MRI), medical imaging, non-destructive evaluation (NDE), scientific visualization



16 Three-dimensional medical imaging: algorithms and computer systems

M. R. Stytz, G. Frieder, O. Frieder

December 1991 **ACM Computing Surveys (CSUR)**, Volume 23 Issue 4**Publisher:** ACM Press

Full text available: pdf(7.38 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#), [review](#)**Keywords:** Computer graphics, medical imaging, surface rendering, three-dimensional imaging, volume rendering17 Low-complexity maximum intensity projection

Benjamin Mora, David S. Ebert

October 2005 **ACM Transactions on Graphics (TOG)**, Volume 24 Issue 4**Publisher:** ACM Press

Full text available: pdf(9.92 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Many techniques have already been proposed to improve the efficiency of maximum intensity projection (MIP) volume rendering, but none of them considered the possible hypothesis of a better complexity than either  $O(n)$  for finding the maximum value of  $n$  samples along a ray or  $O(n^3)$  for an object-order algorithm. Here, we fully model and analyze the use of octrees for MIP, and we mathematically show that the average MIP complexity can be reduced to  $O(n^2)$ .

**Keywords:** Maximum intensity projection, complexity, volume rendering18 Controllable smoke animation with guiding objects

Lin Shi, Yizhou Yu

January 2005 **ACM Transactions on Graphics (TOG)**, Volume 24 Issue 1**Publisher:** ACM Press

Full text available: pdf(246.85 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This article addresses the problem of controlling the density and dynamics of smoke (a gas phenomenon) so that the synthetic appearance of the smoke (gas) resembles a still or moving object. Both the smoke region and the target object are represented as implicit functions. As a part of the target implicit function, a shape transformation is generated between an initial smoke region and the target object. In order to match the smoke surface with the target surface, we impose carefully designed ...

**Keywords:** Constrained animation, fluid simulation, implicit functions, level sets, shape matching, shape transformations, velocity constraints19 Bridging the gap between CSG and Brep via a triple ray representation

M. O. Benouamer, D. Michelucci

May 1997 **Proceedings of the fourth ACM symposium on Solid modeling and applications****Publisher:** ACM Press

Full text available: pdf(1.70 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)20 Volume rendering of 3D scalar and vector fields at LLNL

R. Crawfis, N. Max, B. Becker, B. Cabral

December 1993 **Proceedings of the 1993 ACM/IEEE conference on Supercomputing****Publisher:** ACM Press

Full text available:  pdf(2.06 MB)

Additional Information: [full citation](#), [references](#), [index terms](#)

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